



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/024,625

12/18/2001

Ian D. McRury

022956-71 (MIT-239)

3998

21125 7590 01/04/2007
NUTTER MCCLENNEN & FISH LLP
WORLD TRADE CENTER WEST
155 SEAPORT BOULEVARD
BOSTON, MA 02210-2604

EXAMINER

EREZO, DARWIN P

ART UNIT

PAPER NUMBER

3731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

01/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/024,625

Applicant(s)

MCRURY ET AL.

Examiner

Darwin P. Erez

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,20,21 and 23-34 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,20,21 and 23-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 3-7, 20, 21 and 23-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,409,743 to Fenton, Jr. and in view of US 6,010,516 to Hulka.

The rejection under this section has been rewritten to more clearly elaborate on how the Fenton reference is being interpreted.

As to claims 1, 3-7 and 27-34, Fenton teaches a welding device for fixedly attaching a first and second lengths of suture **13**, which can be made from polydioxanone (col. 6, line 63); the device comprising:

- a working end **26**, which is configured to provide a variable gap (adjustable jaws) between an open position or a closed position;
- an energy source or horn **25** connected to a working end **26**;

-a suture contacting element, or collar **1**, located/disposed on the working end during use and having the sutures located therein; wherein the collar is formed from weldable material (col. 6, lines 34-43) and is configured to act as a pod to prevent the sutures from sliding off the working end (Fig. 8A);

-wherein the provision of energy from horn **25** to the working end of the device, and into the collar **1**, causes the suture to fuse together (col. 7, lines 3-11).

The main embodiments of the Fenton reference are directed toward the working end being a heating element or an ultrasonic horn. However, Fenton does recite that other well-known techniques, such as optical energy, electrical or RF, can be used to weld the sutures together (col. 4, lines 43-51). Fenton is merely silent with regards to the details of said other well-known techniques.

On the other hand, Hulka teaches a well known coaptation clamp device that uses RF technology, wherein the device comprises an electrosurgical energy source **12** configured to generate radio frequency waves, and electrodes **22**, which is necessary for completing the bipolar circuit. That is, one electrode would inherently provide the RF energy while the other electrode would inherently return the RF energy in order for the current to flow. Hulka also teaches an RF device that is configured to provide a variable gap that can be selectively adjustable between an open and closed position, and wherein the RF device has a pod in any of the serrated portion shown in Fig. 1.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Fenton to include the RF technology taught by Hulka since the Fenton reference itself teaches that the device

Art Unit: 3731

would work with RF technology and that Hulka is merely being provided to teach a generally well known RF device and its associated structures.

Furthermore, the modification to the device of Fenton would have the working end or jaws **26** act as the electrodes, as taught by Hulka, which would in turn have the suture contacting element or collar **1** be disposed on the jaws **26**.

As for claims 20, 21 and 23-26, the above modification to Fenton also discloses a method of welding a first length of suture and a second length of suture, wherein the modified device above is provided; a first and second length of suture is placed into the suture contacting element or collar **1**; and an electrosurgical energy source that provides energy to secure the two loose strands of suture **13** together. The modified device of Fenton would utilize RF waves to fuse the suture together. Furthermore, as shown in the rejection to the device claims above, the suture welding device can be selectively adjustable between an open position and a closed position. Moreover, the collar **1** serves as a pod to prevent the suture from sliding off the working end.

Response to Arguments

4. Applicant's arguments filed 10/6/06 have been fully considered but they are not persuasive.

The applicant argued that the Fenton reference discloses "a fusible collar for securing suture without knots" and fails to disclose "a suture contacting element having the first and second lengths of suture thereon". However, as elaborated above, the collar **1** is being interpreted as the suture contacting element, which is disposed on the working end **26** during use.

The applicant also argued that Fenton fails to teach a device that welds suture together, and that the other well-known techniques, such as optical, electrical or RF, are used to weld the collar, and not the sutures. This is not persuasive because the Fenton reference does disclose that the device is capable of not only fusing the collar, but is also able to fuse the suture together without fusing the collar to the suture (col. 7, lines 3-11).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Fenton reference specifically discloses that his device could be used with different types of welding technology, such as ultrasonic, optical, electrical or RF. The Hulka reference is merely being provided to show the elements needed when using the RF technology.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darwin P. Erez who telephone number is (571) 272-4695. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anh Tuan T. Nguyen can be reached on (571) 272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darwin P. Erez
Examiner
Art Unit 3731

de



ANH TUAN T. NGUYEN
SUPERVISORY PATENT EXAMINER

12/24/12